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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,668	05/11/2005	James Bruce Franklin	CU-4204 BWH	6549
26530 7590 02/09/2007 LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			EXAMINER TSIDULKO, MARK	
			ART UNIT	PAPER NUMBER
			2875	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/534,668

Applicant(s)

FRANKLIN ET AL.

Examiner

Mark Tsidulko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>041006, 062305</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The submission of a preliminary amendment filed on 5/11/2005 is acknowledged. At this point claims 1-28 have been canceled and the new claims 29-56 have been added. Thus, claims 29-56 are at issue in the instant application.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the *light emitting device coupled to the light guide by means of a lens* (claim 43, lines 2, 3) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- it is unclear what does Applicant intend by "*the or each*" (see through the text);
- a lens coupler (see claim 43) must be shown in a specification with a reference character.

Appropriate correction is required.

Claim Objections

Claims 30, 36, 39, 41-51, 53, 55 and 56 are objected to because of the following informalities: it is unclear what does Applicant intend by "*the or each*" (claim 30, lines 1, 2 and 4; claim 36, line 2; claim 39, line 1; claim 41, line 3; claim 42, line 2; claim 43, line 3; claim 44, lines 1, 2; claim 45, lines 1, 3; claim 46, lines 2, 3; claim 47, line 1; claim 48, lines 1, 3; claim 49, lines 1, 3; claim 50, line 1; claim 51, line 1; claim 53, lines 1, 2; claim 55, line 2; claim 56, line 1).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-33, 36-40, 45-47, 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naum (US 6,272,269) in view of Pelka et al. (US 6,784,603).

Referring to Claims 29-31, 36, 39, as best understood, Naum discloses (Fig.10) an illumination system including a light collector [26] made of light transmissive material, an electrically powered light emitting device [66] and an optical cable [48]. The system can provide a white color light (col.1, line 13).

Naum discloses that the light has a coat having organic dyes (col.8, lines 50-67; col.9, lines 1-6), but does not disclose the light collector doped with the dyes.

Pelka et al. disclose a fluorescent lighting device having a light collector, which contains a dispersed dyes, that will fluoresce in response to incident light radiation (col.6, lines 23-25).

Providing the light collector having dispersed dyes instead of coating the plurality of LEDs allows simplifying manufacturing method and reducing a price of the device.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the light collector of the device of Naum, having a light collector containing dispersed dyes, as taught by Pelka et al., for the purpose of simplifying manufacturing method and reducing a price of the device.

Referring to Claims 37 and 38 the functional recitation that the optical cable has a cross-sectional area through which light is reduced by $1/3$ and $2/3$ compared to a lighting system in which all colors are generated by collector sheets does not have patentable weight.

Referring to Claim 32 Naum disclose a red LED and blue LED (col.8, line 10).

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Naum discloses the instant claimed invention except for a light collector emitting green light.

Pelka et al. disclose a fluorescent lighting device having a light collector, which can emit a green light (col.12, lines 16-29).

Referring to Claim 40 Naum discloses the light sources of different colors, including red, blue and green (col.8, line 10).

Referring to Claim 45, as best understood, Naum discloses (Fig.10) a lighting device [66] coupled to a light transmissive sheet that is coupled to the light guide [28].

Referring to Claims 46 and 47, as best understood, Naum discloses (Fig.5) a lighting system including a luminaire [72]. The light collector [26] is coupled to the luminaire without an intervening separate light guide.

Referring to Claims 53, 54 Naum discloses the light output controlled by a control circuit (col.8, lines 22-25).

Referring to Claim 55 Naum discloses more than one lighting devices (Abstract, lines 2, 3).

Referring to Claim 56 Naum discloses (Fig.10) a lighting device containing LEDs.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide red and blue LEDs of the device of Naum in a combination with the light collector emitting green light, as taught by Pelka et al., in order to obtain an illumination with a neutral white color.

Referring to Claim 33 Naum discloses the instant claimed invention except for intensity of the light sources.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with a blue light source emitting 2-20% of the total amount of lumens and the red light source emitting 15-30% of the total amount of lumens, in order to obtain an optimal intensity for mixing with green light, for the purpose of illumination with a neutral white color, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980).

Claims 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Bornstein et al. (US 4,539,625).

Referring to Claim 34 Naum in view of Pelka et al. disclose the using LEDS of different colors, including blue (col.8, line 10), but does not disclose a light collector sheets emitting green and red light.

Bornstein et al. disclose (Fig.1) a light collector [10] including a sheet [14] emitting a red light and a sheet [16] emitting a green light (col.3, lines 37-40).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum having a blue light source with light collector containing the dyes of Pelka et al., having a light collector sheets emitting red and green lights, as taught by Bornstein et al., in order to obtain an illumination with a neutral white color.

Referring to Claim 35 the instant claimed invention except for intensity of blue light source.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the blue light emitting 2-20% of the total amount of lumens, in order to obtain an optimal intensity for mixing with green and red lights, for the purpose of illumination with a neutral white color, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 41, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Miyawaki et al. (US 4,832,428).

Naum in view of Pelka et al. disclose the instant claimed invention except for a prism coupler.

Miyawaki et al. disclose (Fig.4) a light source [16] coupled to the light guide [12] by prism [14] for receiving and directing a light beam from a light source [16].

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a prism, as taught by Miyawaki et al., for the purpose of receiving and directing the light from the light source to the light guide.

Claim 42, 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Shahidi-Hamedani et al. (US 5,165,187).

Referring to Claim 42, as best understood, Naum in view of Pelka et al. disclose the instant claimed invention except for an optical fiber coupler.

Shahidi-Hamedani et al. disclose (Fig.1A) a lighting device including a light guide [2] and a light source [20] coupled to the light guide by the optical fibers [16]. This structure allows reducing losses of the light entering the light guide.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a light source coupling to the light guide by the optical fibers, as taught by Shahidi-Hamedani et al., in order to reduce losses of the light entering the light guide.

Referring to Claims 50-52, as best understood, Naum in view of Pelka et al. disclose the instant claimed invention except for battery and solar cell.

Shahidi-Hamedani et al. disclose a lighting device powered by the battery and solar cell (col.3, lines 17-19).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a battery and solar cell, as taught by Shahidi-Hamedani et al., in order to provide electrical power to energize the light source for illumination.

Claim 43, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Riser et al. (US 6,196,709).

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Naum in view of Pelka et al. disclose the instant claimed invention except for a lens coupler.

Riser et al. disclose (Fig.2) a lighting system wherein a light from a light source [12] is focused by a lens [16] onto the light guide [20].

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a lens, as taught by Riser et al., in order to focus the light onto the light guide and reduce losses of the light entering the light guide.

Claim 44, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Grenda et al. (US 6,948,840).

Naum in view of Pelka et al. disclose the instant claimed invention except for a light source implanted into a light guide.

Grenda et al. disclose (Fig.1) a lighting device having a light source [22] implanted into a light guide [20]. This structure allows all light from the light source entering the light guide.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a light source implanted into a light guide, as taught by Grenda et al., in order to prevent losses of the light entering the light guide.

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Claims 48 and 49, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Naum and Pelka et al., as applied to claim 29 above, and further in view of Doong et al. (US 6,200,011).

Naum in view of Pelka et al. disclose the instant claimed invention except for a lighting device mounted in a luminaire.

Doong et al. disclose (Fig.2) a luminaire and a light source [4] mounted in a luminaire and the light sources [3] and [3'] mounted adjacent to the luminaire. The body of the housing [1] play role of the light guide, guiding a light emitted from the light sources [3] and [3'] and reflected light emitted from the light source [4]. This structure allows obtaining compact size of the device.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to provide the device of Naum with the light collector containing the dyes of Pelka et al., having a light source mounted adjacent the luminaire

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Tsidulko whose telephone number is (571)272-2384. The examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the

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organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M.T.
January 31, 2007



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Supervisory Patent Examiner
Technology Center 2800

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